



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,862	01/24/2006	Thierry Prigent	86218WRZ	7330
1333 7590 11/12/2008 EASTMAN KODAK COMPANY PATENT LEGAL STAFF 343 STATE STREET ROCHESTER, NY 14650-2201			EXAMINER ENTEZARI, MICHELLE M	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 11/12/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,862	Applicant(s) PRIGENT, THIERRY	
	Examiner MICHELLE ENTEZARI	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/24/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Section IV.C, reads as follows (see also MPEP 2106):

While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be. In evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole to determine whether it is for a particular application of an abstract idea, natural phenomenon, or law of nature, rather than for the abstract idea, natural phenomenon, or law of nature itself.

For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. Diehr, 450 U.S. at 187, 209 USPQ at 8 ("application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection."); Benson, 409 U.S. at 71, 175 USPQ at 676 (rejecting formula claim because it "has no substantial practical application").

To satisfy section 101 requirements, the claim must be for a practical application of the Sec. 101 judicial exception, which can be identified in various ways:

The claimed invention "transforms" an article or physical object to a different state or thing.

The claimed invention otherwise produces a useful, concrete and tangible result, based on the factors discussed below.

Claim(s) 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim(s) 1-10 recite the mere manipulation of data or an abstract idea, or merely solves a mathematical problem without a limitation to a practical application. A practical application exists if the result of the claimed invention is “useful, concrete and tangible” (with the emphasis on “result”)(Guidelines, section IV.C.2.b). A “useful” result is one that satisfies the utility requirement of section 101, a “concrete” result is one that is “repeatable” or “predictable”, and a “tangible” result is one that is “real”, or has “real-world” value, as opposed to being “abstract” (Guidelines, section IV.C.2.b)). Claim(s) 1-10 merely manipulate data without ever producing a useful, concrete and tangible result (there is for example no tangible image output as a result of the method).

It is the result that is the focus. If the result has a real world practical application/use, then the test has been satisfied. The claim need not include the uses to which the result is ultimately put, just the result itself. Applicant is advised to provide a written explanation of how and why the claimed invention (either as currently recited or as amended) produces a useful, concrete and tangible result.

Claim(s) 1-10 are also rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the

May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Processes' under 35 U.S.C. 101" – publicly available at USPTO.GOV, "memorandum to examining corp"). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. In order for a process to be "tied" to another statutory category, the structure of another statutory category should be positively recited in a step or steps significant to the basic inventive concept, and NOT just in association with statements of intended use or purpose, insignificant pre or post solution activity, or implicitly.

Claim Rejections - 35 USC § 103

2. **Claims 1-4, 7, and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Murooka et al. (US 4975737) in view of Gilman et al. (US 6856427).

Regarding claim 1, Murooka et al. disclose a method of digital modification of the exposure (method for reproducing correct images from incorrect exposure images, title) of the shot images of a photographic support (color photosensitive material, abstract) comprising shot images (images which have been recorded on a photosensitive material, col. 3, lines 25-35) and at least one sensitometry control (monochromatic samples prepared, col. 2, lines 65-68; prepare standard color samples, col. 3, lines 1-25), the method comprising the following steps: in substantially the same conditions, of

Art Unit: 2624

the images and the sensitometry control, in order to link at least one density to the image pixels and the sensitometry control pixels (creation of a conversion table, col. 2, lines 50-55; characteristic curves, col. 3, lines 10-20; same characteristics as photosensitive material, col. 3, lines 1-5, convert densities into DMEs, col. 3, lines 25-35), the establishment of at least one sensitometry relationship from the various exposure values of the sensitometry control and the density linked to the pixels corresponding to these values (creation of a conversion table, col. 2, lines 50-55; characteristic curves, col. 3, lines 10-20), the shift of at least one part of the density of the image pixels, each code being shifted by a value established according to a required modification amplitude of the exposure and, with respect for the sensitometry relationship (convert the DMEs into DMEs corresponding to a correctly exposed image, using the characteristic curve, col. 3, lines 35-45).

Murooka et al. do not disclose digitization, in order to link at least one digital code to the image pixels and the sensitometry control pixels, and using the modification of the digital codes to achieve the correct exposure.

Gilman et al. teach the digitization, in substantially the same conditions, of the images and the sensitometry control, in order to link at least one digital code to the image pixels and the sensitometry control pixels (digitized film source, col. 6, lines 25-35; relationship between the logarithm of the scene luminance values and the output code values, col. 6, lines 25-35; "CV normal exposure" provides rendered code values when the sensor

Art Unit: 2624

was properly exposed when the image was captured, col. 7, lines 40-50 [the code value for normal exposure indicates this is a control]), and using the modification of the digital codes to achieve the correct exposure (exposure correction curve, col. 7, lines 45-60; exposure corrected code values, col. 9, lines 20-30).

Murooka et al. and Gilman et al. are in the similar art of modifying the exposure of images (Murooka et al., abstract, Gilman et al., abstract). It would have been obvious at the time of the invention to one of ordinary skill in the art to improve the method of Murooka et al. with the digital capabilities of Gilman et al., because digital images are common in the art, and digital images also need to be rendered so they can be properly viewed on a display (Gilman et al., col. 1, lines 25-40), and this invention allows a printer to make aesthetically pleasing prints (Gilman et al., col. 2, lines 15-20), which would have a commercial benefit.

Regarding claim 2, Murooka et al. and Gilman et al. disclose the method of claim 1.

Gilman et al. further teach the shift value of each code depends on said code (adding an exposure offset, col. 6, lines 55-65).

Regarding claim 3, Murooka et al. and Gilman et al. disclose the method of claim 2.

Gilman et al. further teach the step c) comprises, for each code: the search for an exposure value linked to the digital code by the sensitometry relationship (rendered code value: relative log exposure, Fig. 8; convert rendered code values to scene log

Art Unit: 2624

luminance values, col. 6, lines 50-55), the shift of this exposure value by the required exposure modification amplitude, to obtain a modified exposure value (adding an exposure offset, col. 6, lines 50-60), the search for a new digital code linked to the exposure value modified by the sensitometry relationship (re-rendering the corrected log E' value using the rendering transform, col. 6, lines 60-68), the replacement of the digital code by the new digital code (CV' is the corrected code value, col. 6 lines 40-50 and col. 6 lines 65-68).

Regarding claim 4, Murooka et al. and Gilman et al. disclose the method of claim 1.

Murooka et al. and Gilman et al. further indicate the step b) comprises the formation of a value table linking a digital code to each exposure energy of the sensitometry control (Murooka et al., conversion table for densities vs exposures, abstract; Gilman et al., lookup table, col. 7, lines 5-15, col. 8, lines 30-40).

Regarding claim 7, Murooka et al. and Gilman et al. disclose the method of claim 1.

Gilman et al. further teach the step c) comprises the forming of a conversion table for each required exposure modification (step 1: convert rendered code values to luminance, col. 6, lines 50-55; steps 1-3 can be performed via a lookup table, col. 7, lines 5-15, col. 8, lines 30-40), the conversion table linking a code shifted with respect to the sensitometry relationship to each digital code in a set code range (step 2: adding an exposure offset, offset is the exposure offset, col. 6, lines 55-65; steps 1-3 can be performed via a lookup table, col. 7, lines 5-15), and, the conversion of image digital

Art Unit: 2624

codes by using the conversion table as a lookup table (step 3: re-rendering the corrected Log E' value using the rendering transform, col. 6, lines 60-68; steps 1-3 can be performed via a lookup table, col. 7, lines 5-15, col. 8, lines 30-40).

Regarding claim 9, Murooka et al. and Gilman et al. disclose the method of claim 7.

Murooka et al. further disclose a look-up table (abstract, col. 2, lines 50-55, col. 3, lines 30-40), and Gilman et al. teach a single look-up table for the sRGB image (col. 7, lines 5-15, col. 8, lines 25-35), indicating the same conversion table is used for all the images found on the same photographic support.

3. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Murooka et al. (US 4975737) and Gilman et al. (US 6856427) as applied to claim 4 above, further in view of Schubert et al. (US RE38005 E).

Murooka et al. and Gilman et al. disclose the method of claim 4. Murooka et al. also disclose a process of interpolation (col. 24, lines 40-45), and a range of printing densities (col. 23, lines 50-60) and Gilman et al. teach linking an exposure energy to a digital code through a table (lookup table, col. 7, lines 5-15, col. 8, lines 30-40).

Art Unit: 2624

Murooka et al. and Gilman et al. do not explicitly disclose the formation of the value table comprises the establishment of intermediate exposure energy values by interpolation.

Schubert et al. teach interpolating the points on the modified film model prior to lookup table generation (col. 11, lines 50-60).

Murooka et al., Gilman et al., and Schubert et al. are in the similar art of modifying the exposure of images (Murooka et al., abstract, Gilman et al., abstract, Schubert et al., col. 11, lines 35-45). It would have been obvious at the time of the invention to one of ordinary skill in the art to try interpolation as a method to obtain a sufficient number of values for the table, as this is one of a finite number of predictable solutions to the need for a proper range of code values (other than taking a potentially impractical number of readings), it would have a reasonable expectation of success, and Schubert et al. teach this technique increases the accuracy of the overall system transfer function (col. 11, lines 35-45).

4. **Claims 6 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Murooka et al. (US 4975737) and Gilman et al. (US 6856427) as applied to claim 1 above, further in view of Fierstein et al. (US 5223891).

Art Unit: 2624

Regarding claim 6, Murooka et al. and Gilman et al. disclose the method of claim 1.

Murooka et al. and Gilman et al. do not explicitly disclose the sensitometry control is recorded on the support more or less concomitantly with the images.

Fierstein et al. teach inserting calibration patches into a first digitized image to produce a composite digital image, the composite digital image is recorded onto a photographic recording medium (abstract), indicating the sensitometry control (calibration patches) is recorded on the support (photographic recording medium) more or less concomitantly with the images (composite image).

Murooka et al., Gilman et al., and Fierstein et al. are in the similar art of modifying images (Murooka et al., abstract, Gilman et al., abstract, Fierstein et al., abstract). It would have been obvious at the time of the invention to one of ordinary skill in the art to improve the method of Murooka et al. and Gilman et al. with a sensitometry control that is recorded concomitantly with the images, as the purpose of the control is to have as close as possible conditions to the test image as possible.

Regarding claim 10, Murooka et al. and Gilman et al. disclose the method of claim 1.

Murooka et al. further disclose a shooting method (various photographs are taken, the aperture of the camera is set to various values so that the respective frames of the film are exposed with different exposures, col. 18, lines 20-30) comprising the capture of images on a photographic support (capture of images on photosensitive material, col. 1,

Art Unit: 2624

lines 5-30) and the forming of at least one sensitometry control (monochromatic samples prepared, col. 2, lines 65-68; prepare standard color samples, col. 3, lines 1-25), and following development of the support (film developed under the same conditions as the standard, col. 18, lines 25-35), modification of the exposure (abstract, col. 24, lines 15-25). Gilman et al. further teach a digital modification of the exposure (abstract).

Murooka et al. and Gilman et al. do not explicitly disclose the control is on the same photographic support.

Fierstein et al. teach inserting calibration patches into a first digitized image to produce a composite digital image, the composite digital image is recorded onto a photographic recording medium (abstract), indicating the sensitometry control (calibration patches) is recorded on the support (photographic recording medium) more or less concomitantly with the images (composite image).

5. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Murooka et al. (US 4975737) and Gilman et al. (US 6856427) as applied to claim 7 above, further in view of Collette (US 5081529 A).

Art Unit: 2624

Murooka et al. and Gilman et al. disclose the method of claim 7. Murooka et al. and Gilman et al. do not explicitly disclose a separate conversion table is established for each color layer of the photographic support.

Collette teaches, "In operation, since three colors (red, green, and blue) are being processed, three separate tables are maintained. Each of these tables, however, normally have the same values for each code value entry" (col. 6, line 60 – col. 7 line 5).

Collette is in the same art of improving images (Collette, adjusting brightness, contrast, hue, saturation, Fig. 2B, 2C). It would have been obvious at the time of the invention to one of ordinary skill in the art to improve the invention of Murooka et al. and Gilman et al. with the multiple LUTs taught by Collette, as on occasion there is a color cast when reproducing neutral colors, and the use of separate LUTs minimizes this effect (Collette, col. 7, lines 1-10).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Lee et al. (US 5633511)
- b. Bogdanowicz et al. (US 7167280 B2)
- c. Mimaki et al. (US 2003/0095802 A1)
- d. Cosgrove et al. (US 5644647)

Art Unit: 2624

- e. Edgar (US 6792162 B1)
- f. Liaw et al. (US 2002/0158882 A1)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHELLE ENTEZARI whose telephone number is (571)270-5084. The examiner can normally be reached on M-Th, 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571)272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michelle Entezari/
Examiner, Art Unit 2624

/Vikkram Bali/

Supervisory Patent Examiner, Art Unit 2624